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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/673,143
Filing Date: September 30, 2003
Appellant(s): LEE ET AL.

Samsung Electronics Co., Ltd.
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed April 26, 2010 appealing from the Office action mailed July 24, 2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

Claims 1-18 and 22-44 are pending, with claims 9-14, 22-26 and 34-38 withdrawn from consideration.

Claims 1-4, 6-8, 15, 17, 18, 27, 29-33 & 39-44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogihara (US 2002/0075780).

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN

REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner: Rejection of claims 5, 16 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Ogihara.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

US 2002/0075780	Ogihara	6-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 U.S.C. § 103

Claims 1-4, 6-8, 15, 17, 18, 27, 29-33 and 39-44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ogihara (US 2002/0075780).

In regard to claims 1 & 6-8, Ogihara discloses a recording medium type discriminating apparatus (Figure 1), comprising: a radio frequency (RF) amplifier (109) to output a signal (S_{PP}) based on light reflected from a recording medium (101); a wobble amplitude detector (118) to detect an amplitude (see Figure 3, which shows in detail wobble detecting section 118 and which detects wobble amplitude LV2) of a wobble formed on the recording medium based on an output signal of the RF amplifier (as shown in Figure 3) to discriminate a recording medium type of the

recording medium (title: "identifying optical disks"); and a system controller (105) to discriminate the recording medium type of the recording medium (101) by comparing the wobble amplitude (LV2) with a pre-set wobble amplitude reference value (paragraph 0036: "LV2 is at a predetermined level or higher"; "LV1 and LV2 are smaller than predetermined levels").

In regard to claim 2, Ogihara discloses that the RF amplifier (109) detects a push-pull signal (S_{PP}) by determining an amount of the reflected light and provides the detected push-pull signal to the wobble amplitude detector (118).

In regard to claims 3 & 4, Ogihara discloses that the wobble amplitude detector detects a peak-to-peak value of the output signal of the RF amplifier and identifies the detected peak-to-peak value as the wobble amplitude (see paragraph 0037: "mVp-p").

However, Ogihara does not disclose: in regard to claims 1 & 6-8, detecting **only one** amplitude of the wobble; in regard to claim 6, that the reference value is about 16 nm; in regard to claim 7, that the reference value is less than 18 nm; and in regard to claim 8, that the reference value is greater than 14 nm.

(A) Regarding the detection of "only one" amplitude of the wobble (claims 1 & 6-8):

In Ogihara, detection levels LV1 and LV2 are compared with each other (see Figure 3). The following conditions are then tested to discriminate between DVD-RW, DVD+RW, and DVD-ROM disks:

(a) When LV1>LV2 and LV1 is at a "predetermined level" or higher, the optical disk is identified as a DVD-RW disk (see paragraph 0037).

(b) When LV2>LV1 and LV2 is at a "predetermined level" or higher, the optical disk is identified as a DVD+RW disk (see paragraph 0038).

(c) When both LV1 and LV2 are smaller than predetermined levels, the optical disk is identified as a DVD-ROM disk (see paragraph 0039).

Therefore, Ogihara's invention has the advantage of discriminating between these three types of DVD disks.

However, it is also possible, based on the teachings of Ogihara, to implement a device which discriminates only between, e.g., a DVD+RW disk and a DVD-ROM disk. Such device would require only comparing LV2 with a predetermined level. That is, if identification of a DVD-RW disk is not desired, it would have been obvious to one of ordinary skill in the art at the time of invention to have omitted the step/function of comparing LV1 and LV2 from the teachings of Ogihara. This would be applicable in an environment/scenario where only the "DVD+" standard is used, and there is a desire to discriminate only between DVD+RW disks and DVD-ROM disks. See MPEP § 2144.04, section II-A: "omission of an element and its function is obvious if the function of the element is not desired". See also *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965) (Omission of additional framework and axle which served to increase the cargo carrying capacity of prior art mobile fluid carrying unit would have been obvious if this feature was not desired.); and *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975) (deleting a prior art switch member and thereby eliminating its function was an obvious expedient).

Likewise, it is also possible, based on the teachings of Ogihara, to implement a device which discriminates only between, e.g., a DVD-RW disk and a DVD-ROM disk. Such device

would require only comparing LV1 with a predetermined level. That is, if identification of a DVD+RW disk is not desired, it would have been obvious to one of ordinary skill in the art at the time of invention to have omitted the step/function of comparing LV1 and LV2 from the teachings of Ogihara. This would be applicable in an environment/scenario where only the "DVD-" standard is used, and there is a desire to discriminate only between DVD-RW disks and DVD-ROM disks.

Both modifications of Ogihara noted above involve detecting **only one** amplitude of the wobble, as claimed.

(B) Regarding the claimed values/ranges of the "reference value" (claims 6-8):

As noted above, Ogihara discloses the general conditions of claims 6-8. Therefore, selecting a reference value of "about 16 nm", "less than 18 nm", or "greater than 14 nm" would have been, to a person of ordinary skill in the art, an obvious matter of optimization of values/ranges discoverable through routine experimentation, and such optimization is not considered inventive, absent any evidence indicating that such values/ranges are critical. See MPEP § 2144.05, *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955), *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382; *In re Hoeschele*, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969). For more recent cases applying this principle, see *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); *In re Kulling,* 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).

Claims 15, 17, 18, 27, 29-33 & 39-44 have similar limitations as claims 1-4 & 6-8 and are rejected on the same grounds.

(10) Response to Arguments

Pages 22-23 of the Appeal Brief discuss Appellant's arguments which were presented in previous responses after final, and also discuss the Examiner's responses to those arguments in two Advisory Actions. Appellant's new arguments begin in page 24 of the Appeal Brief.

(a) Appellant argues (see page 24) that the Examiner's acknowledgement that "the use of the LV1 and LV2 detection levels is an essential element of the invention of Ogihara" is contrary to the Examiner's original rationale for modifying Ogihara, "omission of an element and its function is obvious if the function of the element is not desired". Appellant further notes that "the features the Examiner is attempting to remove from Ogihara are desired". In response to this argument, it appears that Appellant may have been misdirected as to what is being referred by "desired". It is already well-established that all of Ogihara's teachings, including discrimination of three different types of discs (DVD+RW, DVD-RW and DVD-ROM), are desirable features in Ogihara's invention. However, the statement that "omission of an element and its function is obvious if the function of the element is not desired" has nothing to do with *what a reference teaches as desirable*, as appears to be misunderstood by Appellant. Rather, this refers to *what one of ordinary skill in the art would desire* in terms of modifying teachings in the reference. Please see *In re Larson*, 340 F.2d 965, 144 USPQ 347 (CCPA 1965), wherein it was decided that the omission of additional framework and axle which served to increase the cargo carrying capacity of a prior art mobile fluid carrying unit would have been obvious if this feature was not desired. Clearly, the increase in cargo carrying capacity was a desirable feature of the prior art reference. Regardless, the Court affirmed that it would have been obvious to omit these elements and their functions in a hypothetical case that this feature is not desired by one of

ordinary skill in the art. In the current rejection, the Examiner cited an example where identification of a DVD-RW disc would not be desired. This would be applicable in an environment/scenario where only the "DVD+" standard would be used, for example, corporations that employ and support the DVD+ standard (Sony, Philips, HP, Dell, Ricoh, Yamaha, Microsoft, etc.). More importantly, in the general DVD market, corporations that employ the DVD+ standard are in constant competition with corporations that employ standards other than DVD+, such as the DVD- standard, and are therefore under strict obligation to exclusively promote the DVD+ standard. This being said, it would be obvious to one of ordinary skill in the art, looking at the Ogihara reference, to implement a device which discriminates only between a DVD+RW disk and a DVD-ROM disk. Such device would not require the teaching in Ogihara of comparing LV1 and LV2 to discriminate between DVD+RW and DVD-RW, since LV1 would not exist. Such device would require only comparing LV2 with a predetermined level to discriminate between DVD+RW and DVD-ROM. This modification would result with the claimed detection of **only one** wobble amplitude.

Furthermore, while the Examiner maintains the propriety of the obviousness rejection based on Ogihara, the Examiner respectfully directs the Board to an alternate interpretation of the Ogihara reference as it relates to the limitations of claim 1. The Appellant has repeatedly emphasized the lack of disclosure of detecting **only one** wobble amplitude. In the rejections, the claimed "wobble amplitude detector" has been read by the Examiner as corresponding to Figure 1, element 118, which in Figure 3 is shown in more detail as the combination of all of elements 121-128. Alternatively, the claimed "wobble amplitude detector" can be read to correspond to e.g., only elements 122, 124, 126 and 128. This interpretation is consistent with the rest of the

claimed elements. More importantly, this wobble amplitude detector (combination of elements 122, 124, 126 and 128) detects **only one** amplitude of a wobble, that being LV2.

(b) In response to Appellant's argument (see page 24) that selective detection of only a DVD-RW and DVD-ROM or a DVD+RW and DVD-ROM is not desired and not supported by any evidence in the record, please see item (a) above.

(c) Appellant argues (see page 24) that if the proposed modification of Ogihara were implemented, that the system would not work or would have an impermissible error rate, and (see page 25) would render the invention of Ogihara inoperable or undesirable for its intended purpose. In response to this argument, the Appellant appears to be suggesting that the proposed modification involves literally removing unwanted components from the device of Ogihara and using the remaining components as the modified device, as is. While the Examiner did not present every minute detail on how one of ordinary skill in the art would build a modified device based on Ogihara's invention, it is fairly common sense that "omission of an element and its function" would inherently include redesigning the rest of the device in order to adequately perform its intended function with acceptable levels of error and acceptable standards of quality. For example, in addition to omitting elements 121, 123, 125 and 127 from Figure 3 of Ogihara, the modified device would also need to be redesigned such that the remaining components, e.g., elements 109 and 105 in Figure 1, only transmit/receive signals from elements 122, 124, 126 and 128 in Figure 3. This would also make it necessary to reprogram the displaying section 107 to display either "DVD+RW" or "DVD-ROM", instead of its original function of displaying all three disc types. And since there are less components, the device would possibly be redesigned to have a slightly smaller size, less input/output nodes in some components, different integrated

circuit blocks, and so on. One of ordinary skill and common sense would realize that the modified device could/should be designed to handle errors or account for errors when an unknown disc, e.g., a DVD-RW disc, is inserted --- the same way that the Appellant's own invention, while not expressly mentioning DVD-ROM, Blu-ray, or AOD discs, nevertheless is understood to include mechanisms that account for the possibility that one of these unknown types of discs is loaded.

(d) In response to Appellant's argument (see page 25) that the Examiner has not met the burden of a prima facie obviousness case, please see item (a) above.

(e) Appellant argues (see page 26) that the modification of Ogihara would not disclose or suggest to measure a peak-to-peak output value or the RF amplifier as a wobble amplitude, rather, all the system would desire is to know a resultant detection level, i.e., a single peak value, which is sampled and held based on a clock, and LV1 and LV2 in Ogihara are only peak values of the detected filtered RF signal. In response, the Board is directed to paragraph 0037, which cites an example where "the predetermined level is a level corresponding to 100 mVp-p". Since LV1 and LV2 are compared with this predetermined level, it is understood that LV1 and LV2 are peak-to-peak values as well. Furthermore, the Board is directed to paragraphs 0037 and 0038, wherein the signals SF1 and SF2 are expressed as peak-to-peak voltage values. As shown in Figure 3, SF1 and SF2 are simply filtered versions of the S_{PP} signal from the RF amplifying section 109 in Figure 1, and this S_{PP} signal represents the amplitude of the wobble, and is input to wobble detecting section 118.

(f) Appellant argues (see page 27) that the choice of the claimed 16 nm is very specific due to the physical differences in amplitude of wobbled between different types of discs,

and indicates that the specification explains that for DVD-R/-RW discs the range of this physical wobble amplitude would be between 7-14 nm, and that for DVD+R/+RW discs the range of this physical wobble amplitude would be between 18-30 nm. In response, it should be noted that what claim 6 actually recites is that "the reference value is **about** 16 nm". As noted in the rejection, it would be obvious to one of ordinary skill in the art, looking at the Ogihara reference, to implement a device which discriminates only between a DVD+RW disk and a DVD-ROM disk. Such device would require only comparing LV2 with a predetermined level to discriminate between DVD+RW and DVD-ROM. As Appellant admitted, DVD+R/+RW discs are known to have physical wobble amplitudes ranging between 18-30 nm. With this well-known fact in mind, one of ordinary skill in the art could have chosen, for example, a value of 18 nm (which is fairly **about** 16 nm) for the "predetermined level" taught by Ogihara. That is, if LV2 is greater than 18 nm, the disc is identified as a DVD+RW, and if LV2 is less than 18 nm, the disc is identified as a DVD-ROM.

(g) Appellant argues (see page 28) that claims 7, 32, 40 & 43 (which recite that the reference value is less than 18 nm) are equally allowable for the same remarks submitted regarding claim 6. In response to this argument, it should be noted that the noted range includes any values between 0 nm and 18 nm. As noted in another example in the rejection, it is also possible, based on the teachings of Ogihara, to implement a device which discriminates only between a DVD-RW disk and a DVD-ROM disk. Such device would require only comparing LV1 with a predetermined level. As Appellant admitted, DVD-R/-RW discs are known to have physical wobble amplitudes ranging between 7-14 nm. With this well-known fact in mind, one of ordinary skill in the art could have chosen, for example, a value of 14 nm (which is less than 18

nm) for the "predetermined level" taught by Ogihara. That is, if LV1 is greater than 14 nm, the disc is identified as a DVD-RW, and if LV1 is less than 14 nm, the disc is identified as a DVD-ROM.

(h) Appellant argues (see page 28) that claims 8, 33, 41 & 44 (which recite that the reference value is greater than 14 nm) are equally allowable for the same remarks submitted regarding claim 6. In response to this argument, please see item (f) above, which describes an example where a value of 18 nm (which is greater than 14 nm) is chosen as the "predetermined angle" of Ogihara. That is, if LV2 is greater than 18 nm, the disc is identified as a DVD+RW, and if LV2 is less than 18 nm, the disc is identified as a DVD-ROM.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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